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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,914	12/31/2003	Nicholas V. Perricone	00961-P0209C	1385

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EXAMINER	
ARNOLD, ERNST V	

ART UNIT	PAPER NUMBER
1616	

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/749,914	PERRICONE ET AL.	
	Examiner	Art Unit	
	Ernst V. Arnold	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26 and 40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 6, 8, 14-16, 19, 21 and 40* is/are rejected.

7)☒ Claim(s) *4, 5, 7, 9-13, 17, 18, 20 and 22-26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The Examiner acknowledges receipt of Applicant's remarks to the first Office Action filed on 1/13/2006. Applicant's amendments have necessitated a new grounds of rejection. This action is final. Applicant's arguments have been carefully considered but have not been found to be persuasive. Claims 1-5, 8, 9, 15-18 and 22 have been amended. Claims 27-39 have been cancelled. Claim 40 is new. Accordingly, claims 1-26 and 40 are pending in the application.

Applicant has filed a terminal disclaimer to overcome the provisional double patenting rejection.

Applicant has amended claims 9 and 22 to overcome the claim objections.

Claim Objections

Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Instant claim 7 recites a composition of claim 6, comprising 97.25% w/w phophatidylcholine component, 1.00% w/w lubricant, and 0.75% w/w methyl paraben. Claim 1 is drawn to a carrier composition comprising a polyenylphosphatidylcholine-enriched phosphatidylcholine. The base claim requires polyenylphosphatidylcholine-enriched phosphatidylcholine but claim 7 appears

to recite components but not the polyenylphosphatidylcholine-enriched phosphatidylcholine of instant claim 1 and thus is broader in scope.

Claim 20 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Instant claim 20 recites a composition of claim 19, comprising 97.25% w/w phophatidylcholine component, 1.00% w/w lubricant, and 0.75% w/w methyl paraben. Claim 15 is drawn to a topical insulin composition, comprising: carrier having a polyenylphosphatidylcholine-enriched phosphatidylcholine component. The base claim requires polyenylphosphatidylcholine-enriched phosphatidylcholine but claim 20 appears to recite components but not the polyenylphosphatidylcholine-enriched phosphatidylcholine of instant claim 15 and thus is broader in scope.

Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Instant claim 22 recites a composition of claim 16, comprising 53.25% w/w phophatidylcholine component, 1.00% w/w lubricant, 0.75% w/w methyl paraben and 44% w/w water. Claim 15 is drawn to a topical insulin composition, comprising: carrier having a polyenylphosphatidylcholine-enriched phosphatidylcholine component. The base claim requires polyenylphosphatidylcholine-enriched phosphatidylcholine but claim 22 appears to

recite components but not the polyenylphosphatidylcholine-enriched phosphatidylcholine of instant claim 15 and thus is broader in scope.

Withdrawn Rejections:

1. Applicant has amended claims 4, 5, 17 and 18 by removing the trade names to overcome the 35 U.S.C. 112 second paragraph rejection. The rejection is withdrawn.

2. Claims 10, 11, 23 and 24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Modi (U.S. Patent No. 6,214,375) in view of Brieva et al. (U.S. Patent No. 5,985,298). Applicant asserted that Modi is silent as the addition of a surfactant to the composition and that Brieva et al. contains no teaching or suggestion to incorporate one if its combined cosmetic ingredients to achieve adherence to skin to use with Modi's compositions. The Examiner agrees with this viewpoint and the rejection is withdrawn.

3. Claims 12, 13, 25 and 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Modi (U.S. Patent No. 6,214,375) in view of Chaiyawat et al. (U.S. Patent No. 6,538,061). Applicant asserted that Modi in view of Chaiyawat et al. does not render obvious the present claims. The Examiner agrees with this viewpoint and the rejection is withdrawn.

4. Claims 4, 5, 7, 9, 17, 18, 20 and 22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi et al. (U.S. Patent No. 4,687,661) in view of Patel et al. (U.S. Patent No. 6,294,192). Applicant asserted that Patel et al. do not teach or suggest the inclusion of hydrophilic agents in the composition and thus insulin would not be obvious to use. The Examiner agrees with this position and the rejection is withdrawn.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3 and 40 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 3 and 40 introduce new matter as the claims recites the limitation "...pure..." There is no support in the specification for this purity. The limitation of "...pure..." was not described in the specification as filed, and person skilled in the art would not recognize in the applicant's disclosure a description of the invention as presently claimed. The specification discloses mixtures of phosphatidylcholines (Page 4, [0012]) and provides an example of 86% phosphatidylcholine (Page 10, [0029]). There is no guidance in the specification to select pure phosphatidylcholine. Therefore, it is the Examiners position that the disclosure does not reasonably convey that the inventor had possession of the subject matter of the amendment at the time of filing of the instant application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8, 14-16, 19 and 21 remain/are rejected under 35 U.S.C. 102(b) as being anticipated by Modi (U.S. Patent No. 6,214,375).

Claim 1 of the instant invention is directed to a carrier composition for transdermal delivery of a macromolecule, comprising a phosphatidylcholine component entrapping said macromolecule, wherein said component stabilizes said macromolecule at room temperature.

Modi claims a liposomal formulation comprising: I) at least one medicinally active ingredient, such as insulin (Claim 5), II) at least three compounds selected from the group consisting of egg phosphatidylcholine, soy phosphatidylcholine... for example, and III) at least two biodegradable polymers selected from the group consisting of copolymers of sucrose and epichlorohydrin, polyethylene glycols, polyvinyl pyrrolidone... for example (Claim 1) thus anticipating instant claims 1, 2, and 14-16. Soy phosphatidylcholine is enriched with polyunsaturated phosphatidylcholine thus reading on instant claim 3. Polyvinyl pyrrolidone is a known hydrophilic lubricant. Lecithins are known as surfactants. Modi anticipates the addition of antifungal/antimicrobial agents such as methyl paraben to the formulation (Column 4, lines 35-39). Modi anticipates the combination of insulin, soy phosphatidylcholine, dipalmitoyl phosphatidylcholine,

polyethylene glycol, polyvinyl pyrrolidone and methyl paraben thus reading on instant claims 6 and 19. Modi describes a swelling the liposomal formulation in water (Column 7, lines 25-34) and forming multilamellar liposome suspensions in water (Column 8, lines 21-25) thus anticipating instant claims 8 and 21.

The invention of Modi is deemed to meet the limitations of instant claims 1, 2, 6, 14-16, 19 and 21.

Response to Arguments:

Applicant asserted that Modi teaches away from the use of polyunsaturated phosphatidylcholine in the composition and Modi fails to teach or suggest transdermal delivery of a macromolecule to the dermal vasculature to enter the bloodstream and not merely act upon the skin.

While the Examiner cannot argue that Modi does indeed teach that substantially saturated phosphatidylcholine is useful in stabilizing liposomes (Column 3, lines 66-67), the Examiner respectfully disagrees with the Applicant's assertion that Modi does not disclose the instant composition. Instant claim 1 is drawn to a composition with an intended use as a transdermal delivery carrier for a macromolecule comprising a polyenylphosphatidylcholine-enriched phosphatidylcholine component. Modi discloses a liposome pharmaceutical composition that can be used for the delivery of various drugs and can be administered topically (Abstract). Modi discloses soy phosphatidylcholine, which is enriched with polyunsaturated phosphatidylcholine, thus polyenylphosphatidylcholine, as a component in the composition (Claim 1, line 41).

Modi discloses the components of the instant invention. Modi discloses medicinally active ingredients, including insulin, in claims 5-7.

In response to Applicant's assertion that Modi does not disclose transdermal delivery of active agents the Examiner points out that Modi applied liposomal lidocaine to the skin of guinea pigs and examined tissue samples to observe the penetration of the drug through the skin (Column 7, lines 10-60). Modi disclose significant accumulation of lidocaine in the dermis as well as in the subcutaneous tissue and plasma (Column 7, Table 3-Column 8, Table 3). Therefore, it is the Examiner's position that Modi does disclose that the liposomal carriers can transport drugs through the skin to the blood and act internally in the body.

Applicant asserted that Modi does not teach or suggest formulation that stabilizes the macromolecules at room temperature. The Examiner contends that such a property is inherent in the composition of Modi because the composition of Modi meets the limitations of instant claim 1 and would stabilize a macromolecule at room temperature.

Conclusion

Claims 4, 5, 9-13, 17, 18, and 23-26 are objected to as being dependent upon a rejected base claim, but would be allowable, pending an updated search at time of the next Office Action, if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernst V. Arnold whose telephone number is 571-272-8509. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EVA

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